

We claim:

1. A method of killing microorganisms in aqueous industrial systems or products for industrial applications based on water by adding a biocidal additive to the system or product, wherein the biocide is from 0.001 to 5% by weight of at least one water-soluble or water-dispersible polymer containing - based in each case on the total amount of all monomer units present in the polymer -
 - (a) from 30 to 100 mol% of styrenesulfonic acid,
 - (b) from 0 to 40 mol% of an N-vinyl lactam and/or N-vinylamine, and
 - (c) from 0 to 30 mol% of further free-radically polymerizable monomersand the sum of (a), (b), and (c) makes 100 mol%.
2. A method as claimed in claim 1, wherein the polymer contains
 - (a) from 30 to 98 mol% of styrenesulfonic acid,
 - (b) from 2 to 40 mol% of an N-vinyl lactam and/or N-vinylamine, and
 - (c) from 0 to 30 mol% of further free-radically polymerizable monomers.
3. A method as claimed in claim 1 or 2, wherein all or some of the sulfonic acid groups are in salt form.
4. A method as claimed in any of claims 1 to 3, wherein the industrial products based on water are aqueous dispersions.
5. A method as claimed in claim 4, wherein the dispersion is electrostatically or ionically stabilized.
6. A method as claimed in claim 4, wherein the dispersion is spray dried.
7. A method as claimed in any of claims 1 to 3, wherein the aqueous industrial systems are refrigeration or heat exchanger circuits.

8. A method of protecting articles by applying an antimicrobial composition at least comprising water or a predominantly hydrous solvent mixture and a biocidal additive to the article by means of an appropriate technique and removing water or the predominantly hydrous solvent mixture, wherein the biocide is from 0.001 to 5% by weight of at least one water-soluble or water-dispersible polymer containing - based in each case on the total amount of all monomer units present in the polymer -
- (a) from 30 to 100 mol% of styrenesulfonic acid,
- (b) from 0 to 40 mol% of an N-vinyl lactam and/or N-vinylamine, and
- (c) from 0 to 30 mol% of further free-radically polymerizable monomers
- and the sum of (a), (b), and (c) makes 100 mol%.
9. A method as claimed in claim 8, wherein the antimicrobial composition further comprises at least one binder.
10. A method as claimed in claim 8 or 9, wherein the antimicrobial composition further comprises a crosslinker or a system of crosslinkers.
11. An article with an antimicrobial coating obtainable by a method as claimed in any of claims 8 to 10.